



ANIMAL HEALTH FACT SHEET

California Department of Food and Agriculture
Animal Health and Food Safety Services



Vesicular Stomatitis

- April 2005 -



Introduction - Vesicular stomatitis (VS) is a virus-caused disease that primarily affects cattle, horses, and swine. The disease can also affect many other species of animals and has occurred in sheep, goats, wildlife, and occasionally humans. The major significance of the disease is its nearly identical appearance to the truly devastating foot and mouth disease, which was eradicated from the United States nearly seven decades ago.

Vesicular stomatitis is limited to countries in North, Central, and South America. Since 1995, VS has occurred annually in horses from some southwestern and Rocky Mountain states. In California, the most recent occurrence of VS was during the early 1980's when several dairies in the Central Valley became infected after importing cattle from other western states.

Vesicular stomatitis outbreaks have resulted in embargoes of animals from affected states, cancellation of livestock events, closure of sale yards, loss of export markets, and increased testing requirements and expenses for interstate movement of animals. Furthermore, production losses and the costs of treating affected animals can be significant.

Cause - Vesicular stomatitis virus (Rhabdovirus family).

Development of Disease - "Vesicular" refers to the vesicles, or blisters, that form in affected animals. The term "stomatitis" means inflammation of the mouth. In cattle and horses, vesicles frequently occur on the upper surface of the tongue, the inner surface of the lips, the corners of the mouth, around the muzzle, and on

the gums. Some affected animals may salivate excessively and refuse to eat. The vesicles can also occur on the prepuce of male horses and the teats of cows and mares. In all species, but particularly pigs, vesicles can form on the coronary band and hooves, resulting in lameness. These vesicles are usually filled with clear fluid, but rupture easily, leaving raw, painful tissue exposed. Since the vesicles rupture so easily, the remaining sores are often the only lesions seen. Animals may develop a fever just prior to or during the time that the vesicles appear. When infection spreads through a herd of susceptible animals, anywhere from 5-90% may show clinical signs. Affected animals usually recover within two weeks, although lesions may take up to several weeks to heal completely. Death from VS is rare.

Spread of Disease - The exact mode of transmission of VS is not known. In North America, the disease usually occurs from late spring through early fall. This coincides with peak fly activity, and blood-sucking insects, including black flies, sandflies, and mosquitoes, have been implicated in transmitting the disease. Infected animals may spread the virus to others in the herd through saliva or through fluid from ruptured blisters. The disease may spread to new locations with the movement of infected animals or contaminated equipment and vehicles.

Diagnosis - Animals that develop vesicles in their mouths or around their hooves should be immediately examined by a veterinarian. Identification of the virus in fluid or tissue from an affected animal is the most definitive way to diagnose VS. In many cases, a series of blood tests is adequate for arriving at a diagnosis. Veterinarians are required to report all vesicular diseases to their State Veterinarian.

Treatment - Antibiotics are not effective against the VS virus. However, they may be used to treat secondary bacterial infections. Supportive care, such as providing pain medication, non-abrasive feed and good bedding, may help alleviate discomfort while the animal recovers.

Control and Prevention - Currently, there is no commercial vaccine for VS. Animal owners can greatly reduce their risk of importing this disease by knowing where outbreaks are occurring and avoiding the movement of animals to and from those areas. If animals are to be moved from areas where VS is present, a health certificate and permit are required. Contact the office of the State Veterinarian at (916) 654-1447 for specific information. Upon entering a new facility, animals coming from a VS area should be isolated for two weeks before being introduced to the rest of the herd.

Animals showing signs of VS should immediately be separated from the rest of the herd and examined by a veterinarian. Stalls, pens, and vehicles that may have held infected animals must be thoroughly cleaned and disinfected with an appropriate disinfectant. Handlers should take precautions to avoid spreading the disease, such as washing their hands after handling and feeding suspect animals, and using separate equipment for healthy animals. Since insects are believed to play a role in the transmission of VS, insect control is also important.

Zoonotic Potential - Zoonotic diseases are those that can be transmitted from animals to humans. People may become infected with the VS virus if they do not wear gloves or wash their hands thoroughly after handling infected animals. When handling potentially infected animals, care should be taken to prevent saliva from coming into contact with eyes, mouth, and open wounds. In humans, the virus causes an influenza-like illness

with symptoms such as fever, muscle aches, headache, and malaise. Persons who believe they may have been exposed to this or any other zoonotic disease should promptly seek medical attention.

Related Brochures Available from CDFA:

- ◆ Biosecurity Tips: Selection and Use of Surface Disinfectants
- ◆ Protecting the Health of California's Animal Agriculture
- ◆ Hand Washing - Why, When, How, and with What
- ◆ Biosecurity Tips for Foreign Travelers
- ◆ Transportation of Livestock into California

For additional information call:

Animal Health Branch

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| Headquarters: | (916) 654-1447 |
| Redding District: | (530) 225-2140 |
| Modesto District: | (209) 491-9350 |
| Tulare District: | (559) 685-3500 |
| Ontario District: | (909) 947-4462 |

These materials can be made available in alternative formats upon request. Please phone the Animal Health Branch at (916) 654-1447 for more information.